

## Description

# QUICK FIXING SYSTEM FOR AN ELECTRIC DISTRIBUTION BOX DESCRIPTION

### BACKGROUND OF INVENTION

#### [0001] OBJECT OF THE INVENTION

[0002] The present invention refers to a fixing system for an electric distribution box to its corresponding support, allowing said fixing to occur extremely quickly, practically instantly, leaving said box and support immobilized on two imaginary axes perpendicular to one another, which ensures that the fixing is solid and effective, in addition to quick.

[0003] The system of the invention is especially applicable in the scope of the automobile industry, especially for assembling electric distribution boxes in the suitable place in vehicles.

#### [0004] DESCRIPTION OF THE INVENTION

[0005] In the preferred practical scope of application of the in-

vention, that of fixing electric distribution boxes in automotive vehicles, the fixing of said boxes to their corresponding support is usually carried out with the collaboration of screws which, passing through the bottom or a wall of the box, screw into complementary holes of the support.

- [0006] Evidently, even though this type of fixing is effective in terms of being an anchor for the boxes, it implies slow handling, substantially prolonging its assembly and negatively affecting costs.
- [0007] Furthermore, it requires a reinforcement of the box in the screwdown area thereof to prevent the heads of the screws from becoming larger and exceeding the holes of the box.
- [0008] An alternative solution is to fix the electric distribution boxes with the collaboration of clamps, which complicates and increases the cost of the system even more.
- [0009] The system proposed by the invention solves the problem previously set forth in a fully satisfactory manner, allowing the quick and effective fixing of the box to its support, with an extremely simple and therefore economical structure.
- [0010] To this end and more specifically, said system is based on

arranging an extension on the most solid part of the distribution box, duly oriented according to the location foreseen for the support and the position the box must adopt, an extension reinforcing the structure of the box and finished off on its free end with a series of fixing catches, preferably four of them, aligned and having different orientations, such that two of them lock the support in the "Z" axis direction, whereas the other two lock it in the "Y/Z" directions.

- [0011] Complementarily, the support is materialized in a metal sheet, suitably configured for its prior fixing to the vehicle frame, a sheet incorporating on its free edge tabs and notches with a suitable shape and dimension so as to receive and lock the catches of the extension of the box.
- [0012] Extremely quick assembly and disassembly of the box with respect to its support is thus achieved through said catches and complementary tabs/notches.

#### **BRIEF DESCRIPTION OF DRAWINGS**

- [0013] To complement the description being made and for the purpose of helping to better understand the features of the invention, according to a preferred practical embodiment thereof, a set of drawings is attached as an integral part of said description in which, with an illustrative and

non-limiting character, the following is shown:Figure 1 shows an exploded perspective view of an electric distribution box provided with the fixing system constituting the object of the present invention, and its complementary support.

[0014] Figure 2 shows a perspective view similar to the previous one, but in which the box and support are duly assembled.

#### **DETAILED DESCRIPTION**

[0015] In the described figures, an electric distribution box (1) is shown, with a configuration tending to a rectangular prismatic configuration and with the collaboration of a cover (2) with a specific configuration, but the configuration of these elements (1) and (2) can evidently vary without this affecting the essence of the invention in any way, which, in terms of the box, is specifically focused on the existence on the most solid part of its body (1) of an extension (3) which, in the present case, is placed on an imaginary plane perpendicular to the general plane of the mouth of the body (1), but which can adopt any other arrangement required by the features of the vehicle frame, an extension which, in any case, collaborates in making the body of the box (1) rigid or robust, and which also, in

any case, is finished on its free end with a pair of end catches (4) which, with the edge of the extension (3), forms a type of "U" shape, in which another pair of catches (4'), coplanar to one another and perpendicular to the previous ones, are arranged, as can be seen perfectly in figure 1.

- [0016] This extension (3) of the electric distribution box (1-2) is complemented with a support (5) materialized in a metal sheet, duly configured so as to be adapted and fixed to the vehicle frame, for example through holes (6) for the passage of respective screws, said sheet or support (5) being provided on its free edge with a pair of bent end tabs (7) intended for fitting in the "U" of the extension (3), specifically for being internally adapted to the end catches (4) of the latter, and also being provided with a pair of intermediate notches (7') in turn intended for receiving the catches (4') of the extension (3) of the body of the box by means of insertion, thus achieving a double immobilization of the box (1) with respect to the support (5), through the Y/Z axes in the case of catches (4') and through the Z axis in the case of catches (4).
- [0017] As can be deduced from that previously set forth and as has already been indicated previously, coupling of the ex-

tension (3) of the body (1) of the box to the support (5) is carried out by simple insertion, the same as what occurs in its uncoupling, which makes these operations prove extraordinarily quick and simple, facilitating the assembly and making it less expensive, without affecting the positional solidity or robustness of the electric distribution box with respect to the support.